THE VETERINARY RECORD

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EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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EDITORIAL NOTES.

Last April, after some weeks of discussion, our profession had its annual election of Members of Council. Putting aside the inevitable personal feeling which then found expression there were a number of important questions which helped to decide the election. September has now nearly run its course and nothing has yet been done to settle any one of the matters then so hotly discussed. Have our reforming energies merely cooled or have they expired? Is it apathy or merely extreme cautiousness that has caused the lull in our affairs?

Last election showed distinctly that the profession had not made up its mind on many of the questions. Changes cannot be brought about until a good working majority adopt a definite line. A minority may be right and they may be active but they are impotent until they have converted sufficient of the other side to constitute themselves a majority. We must "keep pegging away" if we are to win and our reformers must first convert the various veterinary medical societies to their views before they can expect the mass of the profession to side with them. The North of England Society has set a good example and we trust others will follow suit and test the wishes of their members by discussing practical resolutions and voting thereon.

The Council has held two meetings since its reconstitution but both have been almost purely formal—the first elected the President and Vice-presidents, the second formed its working committees for the year. The next quarterly meeting will be held early in October and then we shall have some indication of what our governing body thinks necessary, and we shall be able to form a tolerably correct anticipation of the action they intend to take.

One of the questions about which a good deal has been said is the Matriculation Examination—its standard of excellence, method of performance, and uniformity of quality. In another fortnight all our four schools will have entered their new pupils and commenced the work of another session. Matriculations will have been passed and all the old evils (if there are any) perpetuated for another twelve months. We have delegated our duties to other bodies and rest contented that they are properly carried out. Surely we might exercise some slight supervision, even if it only consisted in the presence of an official appointed by the Royal College at the examinations who could report to the Council the quality of the questions, and the standard of excellence attained by ths candidates who satisfied the examiners. It is no use talking about these matters if no official notice is taken of them. At present the Council has very little knowledge of the questions set to the candidates, and absolutely none of the answers returned. We ought to have full reports from each examining body, and we trust it is not too late for the Council this year to obtain sufficient data of the Matriculations to enable them to consider the whole subject in a not remote future.

Veterinary politics obtained some attention at the last meeting of the North of England Veterinary Medical Association and a collective opinion was expressed upon three questions of interest.

The 1st question—Shall the Principals of Schools be Ex-officio Members of Council? was answered in the negative, and we think very properly so. No official can be representative who is not elected, and we want no member on our governing body except those chosen by the profession.

The 2nd question—Shall the appointment of examiner be limited to three years instead of five? was also negatived. We disagree with this and fail to see what advantage is gained by the longer time. As far as the profession is concerned it must be well to have the power of revising frequently our appointments. If it can be shown that any of our best men would refuse an examinership for three years, there is an argument against the shorter term, but no other circumstance occurs to us in favor of a long term of office.

The 3rd question—Shall dual appointments continue? was answered by a unanimous resolution that—"A member of Council, if elected an Examiner, should resign and not be eligible for election so long as he remained a member of the Board of Examiners." This is not quite our view. We do not wish to limit the choice of the profession at all in its selection of Councilmen. We do wish to deprive examiners of the power of electing themselves or sitting as councilmen to judge their own proceedings. Perhaps a new Bye Law might be added which would meet the case—something of this kind, "That no Member of Council shall be present at any meeting when a paid appointment, for which he is a candidate, is made or discussed."

ARTICLES AND CASES.

ARSENIC OUTWARDLY APPLIED.

By J. Roalfe Cox, F.R.C.V.S.

A valuable cart horse, the property of a timber merchant, had a warty growth on the side of the face. One day whilst journeying in the team through the city the horse chanced to be espied by a certain "wise man of the east," who, boastful of the advantage of being self-taught and untrammelled by the incumbrance of a diploma, presented himself *in corpore vili* to the proprietor of the animal, undertaking to make a perfect cure for a sov. and to remove the wart so that it should never come back again. The bargain struck, the '*savant*' commenced operation, and attended regularly on three consecutive days to apply on a stick a 'secret,' containing, as he vouchsafed to the carter, who was in the swim, a little arsenic and other things. Discovering a hole in the horse's cheek through which he might put his fist, he displayed his own cheek by skedaddling, and for ever after symbolised the beautiful dream.

At this juncture Dr. Dame Nature and I appeared on the scene, and it was notable how kindly the good old dame proceeded in repair. The hole diminished to about the size of a duck's egg, at which it remained for ever after. Food of course would drop through the opening and saliva too whilst feeding, but as most of these went into the manger it was not all loss. When at work a leather shield was attached to the bridle for decency sake, and barring appearances the horse did very well for years. You could pass your four fingers into the opening, and could see through it two pairs of molars. It might have been worse, for the parotid duct just escaped destruction.

VOMITION IN THE HORSE.

By Robert Anderson.

The letter by a Glasgow Student in your last issue under the title "What was the Matter?" recalls to my mind three distinct cases of Vomition in the Horse which I have witnessed, the particulars of which may be of interest.

No. 1 occurred on board ship, the subject, a five year old well bred horse, was a very greedy feeder, and on this particular occasion he slipped his halter and assisted the horses on each side of him to clean out their mangers. About an hour afterwards he was seized with a violent attack of Colic, and vomited altogether a quarter of a bucket of semi-digested food along with a quantity of mucus. He was all right the following day and remained so the rest of the voyage.

No. 2—an aged draught horse.—This was also caused by over-feeding, and vomition was performed on three occasions with intervals of ten minutes duration.

No. 3 occurred quite recently. The subject, a five-year-old carriage gelding, broke loose and got at the corn-bin. On the groom giving him a drink of water in the morning he was attacked with Colic, and showed almost identical symptoms with the others.

It is to be noted that in each of these cases the cause was the same, viz., overfeeding, and it brings us to the question—whether it is possible for a horse to vomit without having organic disease of the stomach? My opinion is that it is quite possible when the stomach is full; and that it is not at all necessary that a partial rupture should be associated with it, functional derangement being quite sufficient to account for the symptoms.

VERMICULAR BRONCHITIS.

By James Webb, M.R.C.V.S., Bishop's Stortford.
(Late V.S. to the Royal Horse Artillery.)

The wet weather during the present summer has already proved itself favourable to internal parasitism.

During the past fortnight I have had to attend some calves for bronchitis, caused by the presence of *Strongyli micruri* in their bronchial tubes. Last Autumn and Winter I had to attend a large number of calves, many of which had already succumbed to the ravages of these helminths. *Post-mortem* examinations revealed not only the presence of worms and bronchitis, but also extensive pneumonia, caused by the irritation and inflammation extending into the substance of the lungs: the calves prior to death becoming reduced almost to living skeletons. Those which were not so severely affected with dyspnœa and coughing I treated by the new method, viz: intra-tracheal injection of ℞ Acid Carbolic Pur., Chloroform, Ol. Terebinth, the menstruum being either Ol. Olivæ, or Vit. Ovi et Aq., and I rarely had occasion to use more than one injection.

I also employed with equally satisfactory results ℞ Acid Hydrocyanic Dil. Liq. Calcis.

This appears to act as a powerful vermicie, and, at the same time has an anodyne effect upon the mucous membrane lining the bronchii. In this manner it differs from the first formula, which gives rise to an amount of irritation to the patient for a short time. When the latter formula is employed I found it necessary to be careful in not using the Acid Hydrocyanic in too large doses, nor inject it too quickly. I thought once I had killed a calf after administering a dose in this way, but after about ten minutes it recovered.

In parasitic bronchitis the auxilliary treatment is of course all important—as housing the animals at night and on wet days, or having them in a straw yard provided with sheds, and not turning them out too early in the mornings; and where practicable, allowing them to graze in upland pastures, giving them also good dry food, as hay, cake, meal, &c. Small doses of Ferri Sulph. et Sodii Chlorid, may be mixed daily in the food, and rock salt placed in convenient places for the animals to lick, acts beneficially to the *hosts*, but unfavourably to their unwelcome *guests*.

In conclusion, I may say that I found the needles of the intra-tracheal syringe too weak to insert through the thick skin and trachea of calves, the needles usually bend, and frequently they become blocked with a piece of the cartilage of the trachea. To obviate these difficulties, I have had a small instrument made, a nozzle, having a spear-shaped point with double cutting edge, which fits on over the needle of the syringe and through which the medicament is injected.

ON DOING SOMETHING.

By "Senex."

The hypothesis which is stated as a positive fact by the poet Watts in the well known words,

> For Satan finds some mischief still
> For idle hands to do.

does not quite embrace the idea to which I seek to draw attention. I do not doubt that in the absence of useful work most energetic hands will find some kind of employment—possibly mischief—but is there not between the two extremes a medium? It is bad to be idle, and it is bad to be mischievous, but as nature has made man almost incapable of "doing nothing" it is quite right and proper that we should cultivate the art of "doing something" of a neutral character.

The acrobat who has to give half-an-hour's performance could not possibly occupy the whole of the time in actions requiring violent expenditure of muscular force: his audience would object to his sitting quietly in a chair doing nothing: hence those careful arrangements of properties and those extra niceties in the use of chalk and handkerchief which keep the attention of the audience by "doing something."

The courtly diplomatist, in whose hands are entrusted the affairs of nations, must be a master in the art of "doing something." Idle he must not be for his country's sake—judicious activity is his method or, perchance, what is well described in real diplomatic language—masterly inactivity.

In all the relations of man to man it will be found that the art of doing something, and doing it nicely, is conducive to our own good and often to that of others. Idleness—doing nothing—is bad. Even if we put aside, as not scientifically proven, the direct interference of Satan, there are many evils which either accompany or follow idleness. Loss of tone, loss of time, loss of money and reputation are only a few of them.

These generalisations suggest themselves to every body, but their application to the veterinary profession is sometimes overlooked. As an aged practitioner I venture to direct the attention of my younger colleagues to the value of always "doing something" in the performance of their daily practice.

About this time of year at the numerous medical and veterinary schools the annual deluge of inaugural addresses takes place. The "inaugural" is not a natural object—it is a triumph of artificial cultivation; and to change to metaphor not seldom an eclipse of reason and a storm of words.

One idea is common to nearly all these productions, viz., that our calling is a noble one; that we are benefactors to our fellow countrymen; that a life spent in alleviating pain and preventing death raises us a stage or two above the material level of other callings;—in short, that the practice of medicine differs from all other vocations in that it is a sort of professional altruism in which the chief object is to do good to some one else and quite secondarily obtain a reward for ourselves.

This sort of thing is simply humbug. It is all very well for young men; it helps perhaps a few of them to raise their ideal standard, and it assists a few more to assume what they never possess, but on old practitioners it has quite a different effect—it makes them wonder if the author ever had his own living to get in practice, and whether he thinks other classes of mundane workers must be all grovelling and selfish, and "not at all like us."

My young friends, believe me no honest work is degrading, and no profession does its work from purely philanthropic motives; but there are individuals in all callings who are good, and true and unselfish. The *genus homo* is much the same whether it has letters in front or behind its name; whether it works with a pen or a scalpel; whether its tongue or its hand has most to do with its collection of food and raiment.

The fact that I wish to emphasize is that the possession of a diploma does not alter the laws of nature, one of which is that of self-preservation. Even a newly fledged Doctor or Vet. soon finds that charity begins at home and that logic and science even in a civilized country, *per se*, are insufficient to stave off starvation. Very few of our clients are scientific, not many are logical, but all are capable of being inspired by confidence in a man whose

actions seem to them sensible and right. Especially is this the case in the practice of medicine where many things are not very definite, and where if the practitioner be in doubt the client is in absolute ignorance. Verily we have great advantages. If a man sell me an egg and say it is fresh I am certain to find out its condition at breakfast time: bnt if I tell a man his horse is lame in the foot, it may recover, and neither of us ever know that it was lame in the knee. But I must not stop at *telling* him something, or I shall obtain credit merely for diagnosis; whilst what the client wants and pays for is cure. I must *DO* something—something for the good of the patient, the good of the doctor and the good of the client. As internal remedies Aqua font cum Saccharum Ustum, or Magnes. Sulph. or Potas. Nit. are useful placebos. They are not noxious—either to the patient or the ledger, and they are grateful and comforting to the client. But the young practitioner, guided by logic and science, pauses patiently for the development of symptoms, and is delighted to see the action of the medicines he administered yesterday assisting nature to a sure recovery. The client is apt neither to be patient nor delighted. If his animal recovers he fancies the case was a simple one, and that he might almost as well have saved the fees of a man who did hardly anything; if his animal die, he probably says it never had a chance—nothing was done for it.

Then again there is the possibility of a second opinion being asked for, and the practitioner anticipates this by doing everything he can, so that, as an old friend says, "it's a good man if he can think of anything else when I have finished with them."

Now the morality of "doing something" in medical cases is easily supported. You do good to yourself, you do no harm to your patient, and you give satisfaction to your client. You may diagnose your case correctly, you may treat it justly, but if you refrain from "doing something" you do not give satisfaction to your client, you do harm to yourself, and you only affect the patient as in the other case. When you fail to please a client perhaps he will employ another practitioner when next he requires professional aid—and of course a worse man than you—therefore for the good of the sick animals satisfy your client by doing something.

The practice of medicine is really a scientific proceeding but the majority of clients still imagine it to be an occult art. The belief in drugs as *curing* disease is a superstition, and a faith that will not be shaken much this century. My young friend—scientific practitioner—be modest, don't flaunt your superior knowledge in the face of clients, offend them not—do something, do a great deal, and thus shalt thou increase in wealth and reputation.

I am not so certain that the morality of "doing something" in surgical cases is equally clear. Of course where the client is ass enough to still believe in the notion of "cooling the system" whenever a ligament is sprained or a bit of skin damaged the half-dozen powders "let you in"—and him too. But the doubtful cases are those where some considerable amount of time is requisite for the repair of damaged tissues. You cannot keep on with cooling powders, and medicated lotions seem wanting in activity. To "do something" to a leg only satisfies the horsey man when very visible effects are produced, such as an exhibition by the animal of lively pain, a good big swelling, or a removal of hair and cuticle. The more common and ignorant the client, the more pain and swelling must be produced to satisfy him. For such men there is much virtue in a seton which keeps up free suppuration; but perhaps nothing gives them such a grateful sense of complete and finished treatment as to make a limb resemble a roast leg of pork by a dexterous use of the firing iron. That many poor horses are blistered, setoned, and fired unnecessarily I have no doubt, and I should like to believe that all such cases are done from ignorance and not for "something." The old-fashioned charge or the fixed bandage may well be used in many cases where more apparently active remedies are now resorted to, and I would suggest that they are very suitable where it is necessary to gain time and not to lose credit for doing something.

Our fore-fathers taught the owners of animals to believe in agents which induced visible signs of their potency—they were honest, and firmly believed in such things. We superior persons have philosophic doubts—we do not acknowledge that a recovery from laminitis can be accelerated by setons in the shoulder, or that passive bending of the knee obtains any benefit from firing the back tendons. We want to see a direct connection between the disease and the remedy before we adopt the word *cure* instead of *recovery*, and we are not misled by the violence of action shown by any agent into thinking it must do good.

"Inflammation as a reparative process" may be more than a pathological paradox but it certainly is not reparative in exact proportion to its intensity, nor is repair of one tissue, (say tendon), always effected by inflammation in a neighbouring one (say skin).

Let us "do something" in all cases—if we cannot give relief let it be something definitely harmless—let us be sceptical of the therapeutics of the new school as we are of the surgery of the old, Magnes Sulph. is safer than Antipyrin, whilst rest and position may often be substituted for the actual cautery.

RECENT "RECORDS."

A Reply, by Wm. Anderson. F.R.C.V.S.

I was rather amused when I read Professor Walley's observations, in *The Record* for Sept. 7th, under the title of "Recent Records."

He assures us that he makes them "not in a cavilling spirit," but the Professor surely must have misinterpreted the word "cavil," as the whole of his production throughout is pervaded by captious and frivolous statements—the truth of some of which I must question. No less than twenty-six times

does he use the personal pronoun "I," which to my mind makes the article appear rather egotistical.

As he criticises rather severely certain remarks made by gentlemen who had seen the two carcases, which were the cause of the recent trial in Glasgow, perhaps you will allow me to give your readers quotations from the evidence given by the witnesses who were asked questions regarding the appearance of the flesh. I have taken the answers from the official printed proceedings of the case, and as Prof. Walley says "The flesh, too, was dark in colour, soapy to the feel, and pitted when pressure was applied," you will see how far the other witnesses differ from him. In making such a statement, I think Prof. Walley has proved himself to an advocate of wholesale meat condemnation, rather than an unbiassed professional witness, that is—if the majority of the other witnesses are to be credited with truthfulness at all.

The two carcases were those of a two-year-old bullock and a six-year-old cow, and it was the flesh of the cow that Professor Walley so graphically described.

Thos. Walley, M.R.C.V.S., Edinburgh. Bullock—Darker and softer than it should have been. Cow—Apart from tuberculosis the flesh should be condemned.

Andrew McGeoch, M.R.C.V.S., Paisley. The flesh of both animals was abnormally dark in colour, and all dark flesh, no matter whether it is darkened by the lengthened time it is kept or not, should be condemned.

H. D. Littlejohn, M.D., LL.D., Edinburgh. Bullock—Soft and deficient in colour, and iridescent. Cow—Dark and imperfectly nourished, bordering on being unmarketable.

Peter Fyfe, Sanitary Inspector, Glasgow. Both carcases appeared to be quite hard good flesh.

John McLellan, Inspector of Meat, Glasgow. Both carcases were very healthy looking meat.

Robert Beresford, Inspector of Meat Glasgow. Both carcases were perfectly good sound meat.

J. B. Russell, M.D., LL.D., Medical Officer of Health, Glasgow. To the best of my judgment both carcases seemed of normal consistency.

A. Robinson, F.R.C.V.S., Greenock. Bullock—Superior quality. Cow—Fairly good.

George Goldie, M.D., Medical Officer of Health, Leeds. Bullock—A very high-class quality of meat, and in excellent condition. Cow—Perfectly good healthy flesh, firm, and good colour.

Francis Imlach, M.D., Liverpool. Bullock—First class beef, prime meat. Cow—Very fair carcase, very good firm meat. The fat was firm and not sodden.

T. W. Hime, M.D., Bradford. Bullock—A well nourished carcase, with meat abundant of a good healthy natural colour. Cow—A well nourished cow, meat of good colour and abundance of fat interspersed with the lean.

Septimus Gibbon, M.B., Medical Officer for Holborn. Bullock—Appeared perfectly healthy, plenty of fat, excellent colour and consistency. Cow—Flesh darker in colour than in bullock, but not at all inconsistent with perfect health.

J. W. Mason, M.B., Medical Officer of Health for Hull. Bullock—First class meat. Cow—The flesh quite fit for consumption.

J. Dougall, M.D., Glasgow. Both carcases were quite the reverse of being emaciated. The flesh was perfectly firm and good.

Wm. Anderson, F.R.C.V.S., Glasgow. Bullock—An extra well nourished and finished carcase. Cow—Well nourished, plenty of interstitial fat between layers of lean.

W. G. Young, M.D., Glasgow. Bullock—Perfectly sound prime meat. Cow—Quite sound and healthy, flesh well mixed with fat, and the fat itself firm.

David Allen, M.R.C.V.S., Clarkston. Both carcases good sound flesh.

Alex. Pottie, M.R.C.V.S., Paisley. Both carcases good sound firm flesh.

Wm. Boyle, M.R.C.V.S., Glasgow. Both carcases good sound firm flesh.

Archibald Macintyre, Wholesale Butcher Glasgow. Bullock—Excellent quality. Cow—Good firm condition.

Duncan Perritt, Meat Salesman, Glasgow. Bullock—Excellent quality. Cow—Good firm condition.

Daniel Cumming, Meat Salesman. Bullock—excellent quality. Cow—Good firm condition.

Wm. Harkness, Meat Salesman, Glasgow. Bullock—Excellent quality. Cow—Good firm condition.

From this you will see that twenty-one witnesses—comprising nine Doctors of Medicine, five Veterinary Surgeons, and seven persons all practically acquainted with the inspecting of meat, deem it to be their duty to diametrically differ from Professor Walley, upon a subject which does not require the lynx eye of a microscopist to unravel. No doubt he was backed up by two witnesses; but you have only to read their opinions of the meat to prove that I am correct.

VETERINARY MEDICAL SOCIETIES.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

At the Quarterly Meeting of the Association, held in the County Hotel, Newcastle-on-Tyne, on Friday, August 30th, Professor Walley read the following paper:—

THE ERUPTIVE DISEASES OF THE UDDER OF THE COW.

Mr. President and Gentlemen.

The subject which I have to bring before you for consideration to-day, in consequence of the attention which has recently been directed to it, has become a really important one, and as veterinary surgeons it is our duty to enquire into and set at rest all doubtful points in connection with animal

diseases. This remark applies mainly to those maladies which are known to be propagated from animals to man, or which are supposed to be so propagated.

I am bound to confess at the outset that the Eruptive Diseases of the Udder of the Cow have not received at the hands of the veterinary profession that attention which their importance from a sanitary point of view demanded, but this has arisen I think largely from the fact that the veterinary profession as a whole has had no proof presented to it that such maladies as those under consideration were capable of being transmitted from the lower animals to man, and I think I may safely say that as a body veterinary surgeons are quite as much interested in transmissible diseases as members of the medical profession, and quite as observant of facts and coincidences. Notwithstanding this however the outcry which has been raised in connection with this class of disease, and which had its inception in the outbreak at Hendon, has been the means of directing close attention to those maladies, and if no other good has resulted from this agitation it has, I think, been the means of originating a very useful inquiry, which has led to the accumulation of a large amount of proof adverse to the theory promulgated by the medical men connected with the Hendon outbreak—that scarlatina had its origin in the eruptive diseases of the udder of the cow: and further, it is possible that the inquiry may lead to the adoption of a more rigorous inspection of our dairies, and in this way contagious diseases may be even more quickly detected than they have been in the past, and the milk-drinking portion of the community may be protected against the contamination of that most valuable of all beverages, milk, by materials which in themselves form anything but pleasant additions to the lacteal secretion.

The different forms of eruptive disease affecting the udder of the cow have been known to the veterinary profession for a considerable period, but while this is true it is equally true that no attempt at differentiation of these eruptive diseases has in the past been made; that is, if we except variola and eczema epizootica: personally I have been in the habit for the past sixteen or seventeen years of describing the ordinary eruptive diseases of the udder as *varioloid or spurious cow-pox*, and when I was a student, Professor Simonds, who then lectured on cattle pathology at the Royal Veterinary College, London, was in the habit of directing the attention of his class to such eruptions. Than Professor Simonds there never has been, nor never will be again, a more painstaking observer, and it is only due to him to say in this place that he did more for cattle pathology than any other veterinary surgeon this country has produced. The description given by Prof. Simonds of variola vaccina, and as observed by myself, is as follows:—It is an eruptive disease of a specific nature peculiar to the cow and propagated from animal to animal by indirect contagion as by the hands of the milker, and probably, under certain conditions through the medium of the atmosphere within limited distances. The disease is indigenous in the Vale of Aylesbury, but it extends also over several of the West, and West Midland Counties, attacking cows most largely at the period of parturition; and inasmuch as dairy cows are, in those districts, brought into the dairies for milking purposes usually at the spring of the year the disease is most prevalent at that period. In the course of the affection, fever to a slight extent is shown, but in no case does it attain to so high a degree as in variola ovina and the normal functions are in no way interfered with. The period of incubation is about five to ten days, the affection running its course in about twenty-one days. The local symptoms are, at the outset more or less inflammatory swelling of the skin around the base of the teats or between the teats, occasionally spreading over the body of the udder, and sometimes involving the teats themselves; this is followed by the formation of papulæ, which however are much less distinct in their characteristics than is the case in sheep-pox, the papulæ in cow-pox partaking more of a diffuse, but limited, inflammatory thickening. This condition is followed by the formation of vesicles, varying in size from a threepenny-piece to a shilling. The vesicles are multilocular and umbilicated and contain at the outset a limpid transparent fluid which, in the course of from twenty-four to thirty-six hours, becomes opaque and milky from admixture with pus. The vesicular stage is followed by the pustular, in which pus is formed and this ultimately leads to the production of a scab the area of which is limited to the area of the original vesicle, and if this scab is prematurely detached a raw granulating surface is exposed; but if the scab is allowed to remain *in situ* the inflammation gradually subsides and the separation of the scab begins circumferentially, the central portion remaining firmly attached for some days: ultimately however exuviation results and a somewhat depressed, bare spot, oval or circular in shape, remains. The cicatrix is not usually well marked when the eruption runs its course without interference by friction.

About the year 1870 I had under my observation an extensive outbreak of variola in a herd in Lancashire, and when I first came to Edinburgh the disease was comparatively common among dairy cows coming from Lancashire, Cumberland and Westmoreland, and indeed it was well known to the older dairymen at Leith who attributed to its prevalence the immunity they largely enjoyed from cattle plague.

During the last six or eight years typical cases of variola do not seem to have occurred in the district of Edinburgh, or if they have they have been overlooked. Within the past three weeks, however, my attention has been directed to one or two cases of this kind occurring in a byre, and to which the people on the premises have applied the term "milk beelings," the word beeling in Scotland signifying "boils" or "gatherings." *i.e.*, the formation of an abscess. I have not as yet seen any of these cases in the early stages but from the fact of one of the milkers having become inoculated in the right hand and the disease so produced having been declared by Professor Annandale to be vaccinia, I am forced to the conclusion that they are cases of

variola. I should also note that only a day or two since I saw on the teats of a recently imported Canadian cow characteristic variolous cicatrices. I have the pleasure of showing you a variola scab from a typical case which occurred in the practice of Mr. Ellison of Chorley about three years ago—and I wish particularly to direct your attention to the character of this scab, you will observe it is perfectly circular, of considerable firmness and thickness, and is composed of dried pus, lymph and leucocytes mixed with epidermis and hair. Unfortunately I did not during the prevalence of the disease in Edinburgh obtain a correct drawing of the eruption in its early stages but I have to direct your attention to a coloured drawing by Professor Vaughan while a student at the Dick College about the year 1872. This drawing shows the remnants of two scabs and the depressed spot following the detachment of the scab. In no case is the eruption so superficial as is seen in foot and mouth disease. There is another aspect of this disease to which I would also direct your attention, viz., that on the Continent cow-pox has occasionally been observed to affect male animals—at home the eruption is formed on the skin of the scrotum, and I have myself seen the lesions localised on the lower parts of the limbs. In one or two instances where the animals have been subjected to adverse influences the leg lesions have been followed by acute cellulitis with diffused periostitis, multiple abscesses, and destruction of bone.

As I had the opportunity of watching some of the cases last year which were investigated by Professor McFadyean for the Privy Council I will here give you a detailed description of those which came under my own observation, and I may observe that a concurrent endemic of sore throat existed in and about Edinburgh which was, in my view, wrongly attributed, by one or two medical practitioners, to this outbreak in cows.

On the 22nd October last I received information—through the Markets Inspector, Mr. Scoullar, who had been directed by Dr. Littlejohn, the Medical Officer of Health, to visit the dairy at —— in order to enquire into the existence of an outbreak of disease supposed to be connected with an endemic of sore throat in the west end of the city—that the cows in the byres of Mr. —— were suffering from an eruptive disease of the udders and teats, and at the same time it was intimated to me that the proprietor of the cows in question would be obliged by my proceeding to the place and, after making an examination of the animals giving my opinion as to the nature of the malady.

I visited the byres the same evening, taking with me my colleague, Prof. McFadyean, and made a careful examination of the whole of the stock which consisted of 24 cows and 6 queys.

I found altogether 3 cows and 1 quey presenting the lesions of an eruptive disease either in the udder or teats or in both situations.

The most important of these cases were: 1st, a shorthorn cow; 2nd, an Ayrshire quey—the other cases being much less pronounced.

The cow—bought on 10th October—exhibited evidence of the existence of a moderate degree of fever, the temperature being 103, but the normal functions were not materially interfered with: the quey's condition was an apyretic one and she was to all outward appearance in a state of perfect health. The latter had been recently (26th Sept.) brought into the byre from a field in the neighbourhood of Denny, and had only calved about a *fortnight*.

The character of the eruptions

(1) *In the Cow*—They were located mainly in the skin of the udder a little distance removed from the base of the teats on the near side; immediately in front of the left anterior teat there was a large brown eschar—about the size of a florin and about the 16th of an inch in thickness, separated around its edges from the skin but firmly adherent in its central parts: behind the posterior left teat there was a somewhat circular pustule (a little larger than a shilling) containing a turbid creamy fluid with a central nearly healthy area. The pustular bleb was situated on a somewhat inflamed base, and there were minor eruptions on the skin of the surrounding parts.

(2) *In the Quey*—The eruptions were scattered more or less over the whole of the body of the udder and on the skin of the teats, but they were of a totally different character to those described on the udder of the cow, they consisted of (*a*) *papular elevations* about the size of a large pea to that of a horse bean, the skin covering which was only slightly, and in some cases not at all, inflamed.

(*b*) *Suppurating sores* on the summit of and around existing and resolved papulæ.

(*c*) *Elevated blebs between the papules* containing a turbid, yellowish colored, purulent fluid collected underneath the epidermis—without any thickening of the corium.

(*d*) Elevated circumscribed nodular swellings, the skin being of the natural colour, presenting the appearance of aborted papulæ.

(*e*) There was an entire absence of any erythematous conditions.

From the pustules in each case I collected fluids on a sterilized needle and handed them to Professor McFadyean. I made strict enquiries as to the health of the persons connected with the dairy, but could glean no information tending to show that any individual member of the family or staff had suffered from any form of disease that could be reasonably attributed to the outbreak in the cows.

Seeing that the endemic of sore throat already alluded to had been attributed to the milk from this dairy, I strongly advised the proprietor to keep the milk yielded by the animals in question apart from the general yield, and to give it to a calf and a number of pigs (two in particular) in the proprietor's possession, or that it should be used for home consumption—and the advice was acted upon.

On the 28th October I asked Mrs.—— to send the quey to my premises at Leith, and to purchase a calf from a corn dealer in the city, and to send it along with the calf; this was done and the quey and calf remained there under my immediate and personal observation until the 11th of November.

During the period mentioned the cow and calf

were carefully examined every day by myself or by my assistant (Mr. Young) and at no period did either of the animals exhibit any evidence of fever or ill health, nor was there the slightest appearance of an eruption on any part of the body, mouth or nose of the calf, and when the quey was removed from my premises the sores were all healed, and the skin of the udder as soft and clean as if no lesions had ever existed.

This quey was sent to the College by request of Professor McFadyean, on the 24th Nov., as she was then suffering from an eruptive affection similar to that observed in the other animals.

I paid several visits to the byre between the dates mentioned, and examined the calf and pigs there, but in none of them was there any departure from the healthy state.

The cow (No. 1.) gradually improved, but I did not succeed in securing the large scab to which I have alluded, some other person who had been examining the animals having stolen a march on me. No such coherent scab was found in any other part of the udder, the remainder desiccating in irregular and small masses; there was, however, profuse desquamation—the exuviated pieces of cuticle being unusually large. *In neither of these animals was there any pitting of the skin on the site of the lesions.*

At various dates after the commencement of the outbreak, a number of other cases occurred; of these three were severe, and presented much the same kind of eruptions as those described in the udder of the short-horn cow, the remainder being of a much milder type, the eruptions fewer, and much of the same character as those seen in the udder of the heifer—the course, too, of the affection was shorter.

Two of the three cows above mentioned, were sent to the College, by desire of Prof. McFadyean, and I had the opportunity of watching the progress of the cases. In both, the eruptions involved the teats to a much greater extent than was the case in the first cow, and owing to the friction of the hands of the milkers, the sequential sores were much longer in healing. Moreover, in one case there was for a few days' evidence of a tolerably acute mammitis, though I imagine this was due to the irritation of the sores and the use of the syphon, and in this animal the temperature continued comparatively high for some days, the breathing was hurried, the pulse materially increased in rapidity, and on auscultation there was detected partial consolidation of the lower parts of the large lobes of the lungs, particularly the right, and marked irritability of the heart's action.

In the other cow, the febrile symptoms, with the exception of respiration, were less marked; but in her case also there was evidence of the existence of bronchial disturbance, in partial consolidation and crepitus, over limited areas at the lower parts of the lungs, and there was a persistent and irritable cough. In neither of these cases was there any marked interference with the normal functions.

On Tuesday, 27th December.

I paid another visit to the dairy (having been informed by Prof. McFadyean that there was a fresh case there), and examined a cow in the early stages of the disease. In this case the lesions were confined entirely to the skin of the right side of the udder. Practically around the base of the teats, and between the teats. From the appearance of the eruptions, I had no hesitation in saying that in the initial stage they had been of a vesicular character, they were now pustular, and with the exception of a slight inflammatory, or rather I should say congestive, flush of the skin, there was no erythema or thickening of any kind—the skin being as soft as a glove—and there was an entire absence of tenderness. The pustules were about the size of a large pea, and in one place grouped together to the number of seven or eight, and though originally discrete, they showed signs of becoming confluent. The cow appeared perfectly healthy, the temperature being 101 F., but the respiration was very much accelerated, the pulse 75, and the heart irritable; the lungs, however were normal. I was assured by Mrs.——— that up to this period, and acting strictly on my advice, she had never mixed the yield of the affected animals with the bulk of the milk; but had taken off the cream, and converted it into butter for family use, and had given the skim milk to the pigs, etc.

I tasted some of the butter, and found it of unexceptional quality.

Having considered the characters of the different forms of exanthemata, the lesions of which are developed in the skin of the udder of the cow, I shall in the second place make a few remarks in reference to the differential diagnosis thereof. At the outset I may observe that the satisfactory differentiation of these eruptive maladies is a difficult task and that for the simple reason that we seldom have the opportunity of watching such cases through their different stages, and after the primary eruption passes off the lesions become materially modified by friction in recubation and in the act of milking. Moreover, as must be a matter of common knowledge with each of you, the characters of the local manifestations of the febrile exanthemata are very largely modified by the constitutional state of the subjects and their surroundings, and that that which may be, and is, in ordinary circumstances, a benign and ephemeral exanthem may—under conditions adverse to the well being of the subject, become a severe and intractable and even a malignant malady. In illustration of this fact I may direct your attention to the malignant course of simple sore throat and catarrh when animals are subject to the influence of foul air, or to the effects of damp and cold; and also to the contraction of similar character under similar conditions in ordinary cases of foot and mouth disease in cattle, and of simple aphtha or stomatitis in the sheep and in the dog. In all these cases an absolutely aseptic and mild malady becomes converted into a virulently septic and destructive one, and I think this may be accounted for by the fact that we have a more or less extensive breach in the cutaneous environment, through which septic and pyogenic organisms can gain entrance to the system, and that at a time when it is in a condition of lowered vitality and incapable of disposing of such organisms or of resisting their effects.

I have said that the difficulty of differentiating

these eruptive diseases is increased by the effects of friction. and I wish to emphasize this remark as the effect of this force is often to produce a deep and extensive cutaneous inflammation where before there was only a superficial and circumscribed one; and the continued application of this force perpetuates the inflammatory action. Moreover, that which at the outset may have been a discrete eruption, with well defined margins and characteristics, becomes converted into a confluent eruption in which the edges become irregular and ill defined.

Diagnosis too, is not facilitated as a rule by the colored delineations of the different forms of eruptions, one sees frequently the pictures which are presented to view are blurred caricatures of the lesions they are intended to represent. In saying this I may direct your attention to some of the coloured sketches in the Privy Council Report on Eruptive Diseases, and also to those in the Report of the Commission on Cattle Plague in 1866, and I am bound to confess that the printer's art does not seem to have progressed during the last half century very satisfactorily in this direction—in proof of which I submit for your inspection colored sketches of Sheep Pox illustrating an article in *The Veterinary Record* (vol 3) on this subject written by Professor Simonds in 1847. If the original sketches could always be obtained the remarks here made would not apply.

I am not going to make any such assertions as "that we ought to be able to differentiate the eruptions of variola vaccina from all other eruptions met with in the udder of the cow" because I know that such an assertion would in itself be wide of the truth; but on the whole we can, if opportunity is afforded us of watching the course of the malady and of enquiring into its history, arrive at a tolerably accurate conclusion in the great majority of instances, and even if we have doubts about it we can, as a *dernier resort*, have recourse to primary inoculation and secondary vaccination of calves.

That the eruptive malady seen by Prof. McFadyean and myself in Edinburgh was distinct from variola I am quite satisfied, although in the first case the lesions bore a strong family resemblance to the lesions of that exanthem. That it was not variola was conclusively proved by the unsuccessful vaccination of a calf, after inoculation with the products of the disease by Professor McFadyean. Whether there were two distinct exanthems may be left an open question; I have stated that in the case of the quey the primary symptom was of a distinctly papular character instead of being vesiclo-pustular as in the other cases; and after I had returned the animal to the infected byre she became the subject of a malady identical with that from which her companions suffered. This fact is recorded by Professor McFadyean in his Report to the Privy Council and I have already mentioned it. Still, it is just possible that the eruption may have been only a different phase of the same malady.

One great difficulty with which the veterinary diagnostician has to contend in these cases is the rapidity with which one particular stage of the eruption merges into its successor, e.g. the vesicular into the pustular. What the exact nature of the Edinburgh disease was may not have been definitely settled; that it was a specific and an infectious exanthem there can be no doubt, and further there is equally little doubt that it bore a strong family resemblance to the disease known as malignant aphtha in the sheep, and I know no term that may be more appropriately applied in each case than that of Ecthyma Contagiosa or Pustular Fever.

The intimate relationship existing between the two diseases was shown very strikingly by the character of the inoculative lesions in each case, and by the resulting sores, sketches of which I exhibit. I had the opportunity of observing the progress of the investigation carried on by Professor McFadyean into the nature of the Edinburgh cow disease, and of contrasting the inoculative lesions with those which I have seen from experiments with the products of malignant aphtha in sheep, and in each case the course of the inoculation malady and the character of the lesions were identical; and, what is of more importance than this, the *post-mortem* lesions were practically identical, differing only in degree; and such differences as were observed in this respect might easily be due to the difference in management to which the animals were subjected. In a clinical sense however, the difference was more marked, inasmuch as the case of the Edinburgh cow disease I did not succeed in communicating the malady to the young animals by sucking, whereas in the case of pustular fever in the sheep, the udder lesion is infective to the lips and mouth of the lamb—as shown in the coloured plates produced. This difference however may be explained by the fact that in the lesions on the udder of the quey there was but very slight breach of surface, while in the sheep ulceration is, in every case, very marked.

I should observe too that the general pathological conditions, e.g. the condition of the mucous surfaces and of the tissues seen in the experimental calves in Edinburgh, and in ewes and lambs in Aphtha, were identical with the conditions seen in malignant catarrhal fever in sheep and cattle, and in malignant cases of foot-and-mouth disease; while in the latter cases an ulcerative stomatitis is set up in the lips and mouth and on the nostrils of sucking-calves identical with the lesions seen in lambs in Aphtha and apparently identical with the lesions seen by Dr. Crookshank in calves sucking on their dams in the Wiltshire cow disease and reported by him in the Privy Council report. The conditions in fact were simply such as we have produced by septic organisms, under a variety of circumstances, and I observe that Dr. Crookshank specially emphasises this point. One great drawback in conducting experiments in such diseases as these is the difficulty experienced in obtaining a pure inoculation material, for the stage during which alone such material can be gathered—*i.e.* the vesicular stage—is so short that unless the experimenter had the animal under his immediate and continuous observation he would never be able to get lymph uncontaminated with pyogenic organisms and in this way experiments become largely vitiated.

The last and most important aspect of this question to which I shall direct your attention is its *Sanitary Aspect;* and that not merely from the point of view of the transmissibility of such affections as those under consideration but from the point of view also of preventive medicine.

I have frequently expressed the opinion that "bovine scarlatina" exists only in the brains of a certain section of the medical profession, and that in those cases in which it was thought scarlet fever and sore throat had originated in some form or other of bovine disease, the real source of the infection had been overlooked, and the bovine-scarlatina theory had been seized upon not only as a ready means of explaining inexplicable facts, but bebecause it fitted in with the views of the investigators. The grounds upon which some medical men have based theories of transmissibility are very flimsy and the readiness with which such theories have been promulgated is lamentable; but I am very happy to find that there is quite a large body of medical men opposed to the practice of arriving at conclusions from false premises and of publishing such conclusions before they have been thoroughly and authoritatively settled. Among these may be noted Professor Crookshank and Dr. Hime, but to show how carelessly statements are made in reference to the origin and character of animal diseases, I may direct your attention to a statement made in the *Lancet* (p. 1027, November 24th, 1888), which, so far as I read it, credits Dr. Creighton with the promulgation of the extraordinary theory "That cow-pox is an infectious disease arising out of a common physiological or constitutional eruption in the teats of milch cows which acquires its special characters by the persistent irritation to which it is subjected at the hands of the milker."

Undoubtedly all classes of sanitarians, medical, veterinary, and lay, are alike deeply interested in conserving (so far as it can be done) the health of the community by preserving the purity of the food supply, and if nothing else results from the scare that has arisen in connection with these maladies there will certainly arise the demand for the institution of sanitary measures having for their object the more effectual oversight of dairies; and although the milk from the healthy parts of the udders of cows affected with eruptive diseases has never been demonstrated to be possessed of deleterious properties, (indeed Professor McFadyean's investigations into the condition of the milk in the case of the Edinburgh cows showed that the milk from the quarters in which the points of the teats were healthy was absolutely pure) yet it is not a pleasant thing to feel that the milk one may be drinking, or may be giving to ones children to drink, may be infected with such deadly organisms as those which are present in the lesions of these maladies, and that these organisms may gain a lodgement in some actual abrasion in the mucous surface of the alimentary canal and produce grave constitutional or gastro-intestinal derangement. It further behoves sanitarians to devise means by which the possibility of such contingencies arising shall be averted or prevented.

Prevention and Suppression.

I apprehend that every member of the profession will agree with me as to the necessity of putting prophylactic measures in force in the case of such outbreaks as those under consideration, as, apart from the alarm attendant upon their existence amongst milk consumers they are the cause of much direct and indirect loss to the owners of cows and also of more or less suffering to the animals themselves.

It would be interesting to enquire into the relative frequency of outbreaks of eruptive affections in the case of dairies in which quarantine on purchase is practised and in the case of those dairies in which it is not practised.

Of the wisdom of adopting a system of quarantine there can be little or no doubt, and, where practicable, this should extend over a period of from three to four weeks under ordinary circumstances, and over a period of two or three months when pleuro pneumonia exists in any particular county or in neighbouring counties.

In towns, such a system is difficult of adoption, as owing to the great price of land accomodation is limited.

In addition to quarantine, isolation should be rigidly practised—all affected animals being immediately removed from the company of the healthy. The udders of the affected animals should be disinfected with weak solutions of Carbolic Acid in Glycerine, Boro-glyceride, Boracic or Salicylic Acid; and with the object of preventing the extension of the ulcers, mild astringent preparations should be used, such as Alum, Ferri Sulph., Liq. Plumbi., or Zinci Sulph. In the case of the healthy animals the udders should be washed before each period of milking. first with warm water, and afterwards with a solution of Borax and Glycerine, or of Boro-glyceride. The application of friction to the sores should be guarded against as much as possible, the milk being withdrawn by the aid of aseptisized syphons or aspirators.

Owing to the great difficulty of thoroughly cleansing metallic canulæ it would be a great boon if some such material as toughened glass could be used in their manufacture.

As to the use of milk from the udders of cows affected with such maladies for dietetic purposes I am of opinion, and have so advised, that it should not be sold with the ordinary yield, but that it should be used for the feeding of calves and pigs or for private consumption. I do not give this advice because of any apprehension existing in my mind that the milk may be deleterious for human consumption; on the contrary, all the circumstances which have come under my observation have led me to arrive at an opposite conclusion, but notwithstanding this I am of opinion that purchasers of such a dietetic article as milk are entitled to get it not only free from ordinary impurities, but also that they shall have it guaranteed against contamination with matters which under certain conditions may become injurious; doubtless, a few minutes' exposure to a boiling temperature would effectually

sterilize milk, but some milk consumers object very much to drinking boiled milk.

While I am of opinion that such diseases as these should be classed as contagious, and included in the Contagious Disease (Animals) Act, I am further of opinion that any orders made in reference to them should only be issued after very careful consideration.

The dairyman is as much entitled to have his interests safe-guarded as is the consumer, and if animals are bought by him in a state of apparent health, and every means are adopted for the preservation of their health, the dairyman is certainly entitled to compensation for the loss of all milk sacrificed in the public interest.

Compulsory notification of the existence of not only this class of disease, but of all forms of disease in milch cows, should be enforced as should also periodical inspection by qualified veterinary surgeons and the careful washing—prior to milking—* of the teats of cows and of the hands of the milkers. And although as a boy I used to delight in having milk projected directly into my mouth from the teat of the cow, I should now, looking at the ordinary state of the udders and teats of cows, very much object to such a proceeding.

In the discussion which followed—

Mr. Wm. HUNTER said he had not seen a case of cow-pox but had seen some cases where there was an eruption on the teats, and there was no scarlatina in the district.

The PRESIDENT said he knew a gentleman who sent his milk to a large dairy company in London. The Company stipulated that they should be allowed to send their medical officer to examine his premises whenever they liked, and recently having heard that there was a case of scarlet fever in the neighbourhood, the milk which had been forwarded was poured into the drains, and no more was sent until the case had recovered. The gentleman receiving his cheque as usual at the end of the month. He quoted this case simply as one that should be commended.

Mr. NISBET had met with two or three cases, one about six months ago where there were four cows kept. The first one that took ill had been on the place between three and four months, the other from two to three years. The cow was a little out of sorts and had eruption on the teats, two or three days afterwards the other cows were affected, the teats presented a similar appearance as shown on the plates by Professor Walley. The teats were dressed with Tinct. Catechu and Glycerine. There was no case of illness in any one that consumed the milk. Ten or twelve years ago they had an outbreak of scarlet fever in his neighbourhood and at the same time he had a bad outbreak of influenza fever. At present they had typhoid fever in his district but it was due to contaminated water and not the milk.

* I only know of one or two byres in Edinburgh in which washing of the teats, prior to milking, is systematically practiced.

NATIONAL VETERINARY ASSOCIATION.

Discussion on Prof. Edgar's Paper at the recent meeting.

Professor WALLEY who was to have opened the discussion sent a communication, which was read. In this Professor Walley said the work of the essayist was well done, but one or two important affections had been omitted from the paper. In the second place he thought Mr. Edgar might have considered the skin diseases of other animals as well.

Mr. J. ROALFE COX also sent a letter on the subject.

Professor WILLIAMS said he was not going to say much upon this subject but there was a gentleman present who could do so and he hoped the President would call upon him to make a few observations.

The President called upon Mr. Hutchins.

Mr. HUTCHINS said he did not know that he was in a position to criticize the paper, because he had only just seen it, but he took a great interest in the subject of skin diseases under the head of scabies. He had examined many thousand specimens of these scabies infecting horses, cattle, sheep, goats, and other animals and had not been able to make out the different genus. He would not be able to tell after examination whether they came from the horse, the ox, or sheep. Still there must be some difference. He himself was at a loss to understand any distinction and thought there were only two varieties of the same species, and really he thought there was no physical difference between them. In Africa he carried specimens of the different forms of scabies. His socks became infected with them and after some days he found upon examination that his legs up to his knees were really infected with scabies. He had really got scab from the variety that affected the bull goat. They were trying to stamp out scab in sheep and goats in the colonies, and it was important to know if the insects were capable of infecting other animals in order that they did not allow a nest for the revival of these insects again. With regard to treatment in dealing with scab in sheep and goats, he found there was nothing that seemed to answer so well as a pound of sulphur in solution. The difficulty was not so much to kill the insects that were on the animal at the time but in killing the whole of the insects that might hatch afterwards. The action of this sulphur was sufficient to prevent this re-infection, and that was a great point. He was satisfied from his experience that a pound of sulphur in a form most convenient was the most effective remedy if they wanted thoroughly to clear the scabies out. He should be glad if any gentleman could give any information as to the different scabies and as to detecting from which animal a particular variety came, he could not do so. Further study was necessary in order to be able to say what the difference was. (Hear.)

Mr. ROBINSON said the subject of skin diseases was one of the most important perhaps that they had to deal with. Although he had not read the

paper he should like to make a few remarks upon the subject generally. He should like first to mention the german Lanolin which in the destruction of these parasites had a power of penetration that he had never seen equalled. Its use in combination with some iodide of potassium was capable of removing almost bony deposits. Recently in the case of a hunter this removed a deposit almost as big as a pigeon's egg, and if this was so, surely the results would be more favourable in the case of parasitic disease.

Professor Williams said he should like to offer a few words upon the scientific part of this valuable paper. The author was kind enough to quote him as well as Mr. Macgillivray, that they had expressed an opinion that tricophyton and achorion were identical. After a series of experiments extending over a long period of time he thought he was justified in stating that they had only one form of ringworm in the horse and one form of parasite causing that ringworm. This parasite could be grown upon other material than the skin, thus upon the branches of apple trees. Then the essayist went on into another important matter. He said "Practical clinical evidence is of far more value in dealing with questions of this kind in pathology, as it is quite easy to appreciate the difficulties of microscopical morphology when a comparison is made with schzowycetes or fission fungi in artificial cultivation," e.g the normal and the attenuated germ bacillus anthracis may present identical features under the microscope, yet inoculation with the one would mean death, and the other a step in the process of protection; this toning down process in fission fungi by deprivation of oxygen or supplying an unsuitable pabulum in which a developement may take place is interesting in comparison with the modification produced in ringworm fungus, by its being exposed to an unsuitable host, its life is enfeebled, its development not vigorous, in fact, it is attenuated and incapable of long sustaining an existepce or of inducing any definite re-action or resistance in the host attacked. Now this bore upon the question as brought forward by M. ——— the German expert as to the identity of bacillus anthracis. That experimentalist found that by cultivating upwards the bacillus in the serum or any other nitrogenous medium virulence could be induced, which was very much questioned. They had something to support the correctness of that view in the continuation of these fungi found in ringworm. They knew that Pasteur cultivated downwards by exposing the brains of rabbits anp other animals that he had inoculated. By exposing these things to the action of the oxygen of the atmosphere he cultivated them downwards until they became at last innocuous. Was it not fair to argue then that it was possible to cultivate upwards the virulence of the organism.

The Chairman said bromide of mercury had been recommended in the treatment of these skin diseases. That undoubtedly was a very strong antiparisitic it destroyed the life of almost anything. It was far better to use it as an ointment. It was one of the most irritating applications they could apply to the skin. In most cases of ringworm one or two dressings of ordinary iodine ointment was sufficient to cure. If they were too severe to be overcome by ointment, corrosive sublimate was to his mind to be preferred to bromide of mercury, which was a strong irritant. He had had cases that had taken a great deal of time to cure. In the case of calves he had put them out to grass and the good keep had caused the entire disappearance of ringworm. Remedies mild in their own nature were quite sufficient.

Mr. Robinson said he did not think that any person who knew anything whatever of bacteriology would differ from Professor Williams in his induction that they could cultivate downwards, but he wanted to take strong exceptions to what Professor Williams said as to their cultivating from one bacillus which had no relation to another.

Professor Williams.—I said a German observer had said that.

Mr. Robinson continuing, he thought Professor Williams endorsed the view to some extent. As to the identity of the bacillus anthracites, all observers had noted it. He was not present yesterday, but he should like to have taken part in the vaccination subject. They could not cultivate downward and he held that it was absolutely demonstrated by Chevaux that varioli would never become vaccinia. It behaved in an entirely different manner. If they took varioli lymph from a human subject and inoculated a cow there was a slight eruption. Take from that another virus and that was the last inoculation they could make. On the other hand, having inoculated those animals with variolus material he took a vaccine and inoculated several children in Lyon's hospital, the result of which was an outbreak of small pox and not of vaccinia.

Professor Williams said that Chevaux's observations were things of the past and it was no use talking about them. He was sorry he introduced it, but at the same time the matter was interesting.

Mr. Hunting said there was a small paragraph in the paper about ecthyma and Professor Axe's failing to communicate it to other horses. Although Professor Axe had failed to produce it by experiment, yet it had propagated itself in stables, and was one of the worst of the contagious skin diseases, because it not only irritated the horse, but soon incapacitated him for work. He did not know whether Professor Axe had noticed a thing that he (the speaker) had, and that was as to the propagation of the disease by heat and moisture. With a dry rug there would probably be no communication of the disease, but if they took a warm harness invariably the disease spread. Some flannel produced the finest specimen he ever saw—there was not only the disease itself but enormous secondary swellings. He hardly liked following Professor Williams but he could not help saying that it was sailing very near to the wind to suggest that they could convert one bacillus into another. Now as to treatment of skin diseases. He made a point first of washing an animal and to start with he used carbolic soap strong enough to kill any of the germs or parasites, and having got rid of the general infection in that

way, he then attended to the local parts ; he also followed carefully Mr, Edgar's suggestion as to going well over the margin of any of the local appearances. For this ringworm and for the disease which he called Psychoris he had discovered what he thought rather a neat preparation. It certainly effected a cure. It was salycilic acid in methylated spirits. It did not stink like train oil or other veterinary medicines. (Laughter.) It was a thing they could paint on with a brush. (A voice. What proportion ?) He supposed it would be a drachm to an ounce. Referring to mange he said he caught it from a dog. His face and arms were swollen up with it, and there was an eruption all over his body. The text-book told them the parasite did not live on any animals other than those to which they belonged. He did not wait long enough to prove this. He got sick of them and tried to kill them, but for about ten days they made it lively for him. (Laughter,) As to the pediculi they were cheerful creatures. Here again he washed the horse all over and then used a cheap dressing—there was nothing better than paraffin. Ought mange to be included in the Contagious Diseases (Animals) Act ? Most certainly he thought it should be. A slight attack of mange in one horse was not a serious matter, but where there was a shed of twenty or thirty horses and it spread to them it cost a deal of money to get rid of it. As to its constituting unsoundness, he should say it was open to argument. He should say it was not unsoundness. Although the ovine diseases were scheduled many people did not think the equine should be. Nobody cared about a horse except for the pleasure of using him, but people had a different interest in other animals because they were their food. Parliament would do nothing until they were forced by public opinion. Mr. Hutchings referred to the question of communicating scabies. He remembered one instance where they lived to communicate it to nine sheep but only in one case did the scab take. The sheep selected were fat ewes in good condition. Very often if they put sheep in that condition amongst scabby sheep not one of them became infected for possibly several months, that is to say, if they have good pasture. On the contrary if the pasture is bad they had a great amount of it. Where animals were hard he often was unable to find a single living insect even with scraping the skin, that was awkward when they wanted to demonstrate that it was a parasitic disease. The symbiotes lived together in tremendous numbers—the finest view he got of them was on an angora goat. He saw them there in all forms in immense numbers. They continued in copulation a great length of time. As to the treatment of horses he found no more effective dressing than soft soap moistened with water and a little carbolic acid added.

Mr. Edgar in replying said he was certainly somewhat gratified at the reception his paper had met with. Professor Walley pointed out two important defects in this paper, as to its dealing only with some skin diseases, and also as to its not dealing with contagions skin diseases in animals other than the horse. There was far too great a tendency at their meetings to go over too wide a ground. If he had taken all the skin diseases there would have been a fearful amount of work, his paper would have been three times the thickness, and no one would have cared to go through it. (Hear.) He was naturally disclined to put a noose round his own neck. He was not sufficiently proud of his knowledge to think that he knew all the contagious diseases of a horse's skin. It was to be regretted that so few cases of the many skin diseases were recorded. Ecthyma for instance was well known to every practitioner in London, but he would ask Mr. Hunting if he knew of any literature on the subject. If he did then he would apologise for not including it in his paper. So far as he could find out there was no scrap of evidence in their literature about it. He could only say that it was a standing reproach to practitioners in London, that for fifteen years they had not found out what it was. If they dealt in this abstract way with diseases they would go on for years without improving. Some of them had appeared mystified about the fungi of ringworm. If he had followed the literature of their profession he should be mystified too. He was sorry for any students who had to peruse their literature. He could only assure them that they would have nothing but confusion to look forward to. He had endeavoured somewhat to go outside the ring He had quoted one of the finest authorities that he knew either in this country or in France or Germany—De Barry's work. He was quite sure he was not mystified with regard to parasites in ringworm. By quoting clinical cases he had endeavoured to prove that they were not identical parasites. He should certainly like to guard himself against the remarks made by Professsr Williams as to the attenuation of these parasites. His object was to show that they had to deal with parasites under modified conditions. No man said it was not the identical parasite working at the disease. It was simply a parasite reduced in its power by the condition under which it was forced to live, just as a foul atmosphere and bad living would not turn out good fighting men. That was why he specially wanted to point out the foolishness of relying on the appearance of these minute organisms. With regard to the extension of scabies they generally confined themselves to the surface of the body, but they found the symbiotic form in the extremities. Why they should be there he was not able to say. Ought these scabies to be scheduled under the Contagious Diseases (Animals) Act ? He asked the question in his paper in order to find out the opinion of the meeting. He knew of eighty-six out of five hundred Shetland ponies being infected with the disease and seventy of the animals died ; in consequence of this a short Act was passed. It was remarkable that there was no demonstration on the subject. Some legal measures should be passed if this sarcoptic scabies was to be crushed out. Mr. Hutchings made some interesting remarks as to the difference of these parasites. The psoroptes in domestic animals were quite different, That of the cat was apparently the same in general outline, but it was distinguished in point of size from that of

the horse. Here was a remarkable thing. All inoculated animals had different species of psoroptes attacking them, but in the sarcoptes he could not find any difference in the species. Speaking of Lanaline he said he had used it successfully with a drug and he should be glad to send a pound jar of it to anyone who would undertake to make experiments with it. Referring to Professor Williams he said he did not believe in the change of one form of organism into another, and he thought the German observer was wrong when he spoke of cultivating upwards into something else. He should like to take the opinion of the meeting as to whether scabies in the horse should be included in the Contagious Diseases (Animals) Act. He was sorry so little had been said about the question of unsoundness. If a man bought a horse covered with ringworm and it was passed on to twenty or thirty others and £20 or £30 spent in removing the disease that was not called unsoundness. If it did not constitute permanent unsoundness it was at anyrate a temporary unsoundness. (Hear.)

The PRESIDENT moved a cordial vote of thanks to Mr. Edgar, which was carried.

GOVERNMENT VETY. DEPARTMENT.

CONTAGIOUS DISEASES IN ANIMALS.

Reported in Great Britain and Ireland during the week ended September 7th, 1889.

Pleuro-Pneumonia.—In Great Britain 13 fresh outbreaks of this disease were reported, 5 of them in England, in the counties of Essex, Middlesex, Norfolk, and Suffolk; the 8 in Scotland were in the counties of Ayr, Edinburgh, Fife, Forfar, Kincardine, Linlithgow, and Perth. The total number of cattle attacked was 53; of these 18 were in England and 35 in Scotland. In addition to these 242 healthy cattle which had been exposed to the risk of infection were slaughtered, 47 in England and 195 in Scotland.

In Ireland there were 3 fresh outbreaks, 2 in North Dublin and 1 in South Dublin, 5 cattle were affected; and 1 animal which had been exposed to infection was slaughtered in the Navan Union, Co. Meath.

Anthrax.—There were 4 fresh outbreaks of this disease reported in England during the week, in the counties of Kent, Lancaster, and York (W.R.), 43 animals were attacked, including 37 deer in Ickworth Park, 32 of these deer were killed, 5 deer and 6 other affected animals died. No fresh cases of anthrax occurred in either Scotland, Wales, or Ireland.

Swine-Fever.—In Great Britain 92 fresh outbreaks of swine-fever were reported. With the exception of 1 in Wales these outbreaks all occurred to England. The total number of swine attacked was 399, a smaller number than in any week since the end of March. Of the diseased swine 173 were killed, 180 died, 40 recovered, and 353 remained alive at the end of the week.

In Ireland there were 10 fresh outbreaks of swine-fever, and 26 pigs attacked.

Glanders and Farcy.—In England there were 14 fresh outbreaks of glanders reported, 11 in London, 2 in Middlesex, and 1 in York (W.R.). The number of horses affected was 25, of which 23 were in England; viz: 19 in London, 3 in Middlesex, 1 in York (W.R.), and 2 in Scotland, in Lanarkshire.

In London 12 fresh outbreaks of farcy were reported and 23 horses attacked. Other parts of Great Britain were free from this disease.

No cases of either glanders or farcy occurred in Ireland during the week.

Rabies.—In England 11 cases of rabies were reported, 9 in dogs and 2 in cattle. The cases in dogs occurred in the counties of Kent, Lancaster, London, Middlesex, Surrey, Sussex (East), and York (W.R.). The 2 cattle attacked were in Kent. In Ireland 8 cases of rabies were reported in the week, 6 in dogs and 2 in cattle.

EXTRACTS.

TUBERCULOSIS AT WEST HARTLEPOOL.

At the West Hartlepool Petty Sessions, Sept. 16th, Jno. Bowes, butcher, of 9 John Street, was charged with having two quarters of beef in his possession which was unfit for human food on the 10th of August. Mr. Higson Simpson prosecuted on behalf of the Corporation, and Mr Barnley, of Middlesborough, defended.

Mr. Marley, inspector of nuisances, in answer to Mr. Simpson, said that on the 10th August he visited the Market, and there he saw two quarters of beef on a stall belonging to Wm. Brown, which on examination he found to be very dark coloured and very soft and flabby when touched. Between the muscles was a very dark watery fluid, the meat had a sickly smell, the fat was very black, which he thought was caused by the black blood running over it. The Medical Officer of Health pointed out some small lumps between the ribs. He got an order from Mr. Fisher, J.P., to have the beef destroyed, which was accordingly done.

Dr. Gourley, medical officer of health, said that at the request of the Inspector of Nuisances he went to inspect some beef in the market. He found two quarters on a stall belonging to Mr. Brown. They were of dark colour, very soft, and on pressure a watery fluid exuded from the cut surface. The fluid was mixed with blood, which had congealed in the interstices. There was much discolouration between the muscles. The symptoms indicated that the quarters belonged to an unhealthy animal. If the discolouration had been the result of a blow it would have been more localised. The hottest weather would not account for this discolouration. The exudation smelt rather stronger than it would have done in a healthy animal. The symptoms generally were such that he would have no hesitation in recommending the destruction of the meat. He examined the inside of the other quarter very care-

fully and found the pleura studded with tubercular deposit. He conveyed some of this to his surgery for the purpose of microscopical examination, which showed that the animal when killed was suffering from tuberculosis, and that pretty considerably advanced.

By Mr. Barnley: The tuberculosis probably caused the unhealthy tone of the flesh. The tubercular deposit in the pleura would certainly affect the lungs. By the two quarters he saw the condition of the other quarters would be similar.

Mr. Alfred Peele, M.R.C.V.S., and Veterinary Inspector to the Corporation, said that he saw the beef in question, and observed that the fat and lean were dark coloured. Several patches of blood were thrown along the back into the fat. Between the muscles blood was also thrown out. He took it that the animal had been suffering from tuberculosis. He made an incision when a yellowish fluid exuded. There was no smell. The symptoms he observed were what could be only attributed to the system being deranged. There were a large number of tubercular nodules on the pleura. In his opinion any animal suffering from these symptoms was unfit for food. The appearance which he saw caused him to think it was unfit for food apart from the tubercular symptoms.

At this stage the court adjourned for half an hour.

On resumption, Mr. Barnley addressed the Bench, and called Edmund Todd, a cattle salesman, who said on the 6th August he purchased at Newcastle a foreign cow, which he thought came from Copenhagen. It passed the Inspector before being allowed to go into the market. He took it to Stockton, where also it was examined. There he sold it to Bowes for £11. For a foreign cow it was considerably above the average in condition. He had been a cattle dealer for 18 years.

Moses Bell, employed by the Corporation at the slaughter house, spoke to the beast being brought in on the 7th August. It was marked with a "B." Mr. Wylie, butcher, got one half and Mr. Bowes got the other. He considered it sound meat. If the lumps spoken of had been present when the beast went in he would have seen them. The lungs were left in the slaughter house according to custom.

Jno. Garthwaite, butcher, killed the beast for Bowes, and noticed nothing unusual about it. Better beef could not have been desired in his opinion.

David Wylie, butcher, bought a side from Bowes on the 7th August. He sent his man for it on the Saturday morning. He did not see the beef before he bought it. He paid 6s. a stone for it, which price was a little above the average. It was second class quality cow beef. There was not the slightest smell about it.

Wm. Rawlings, manager of Mr. Wylie's Church Street shop, spoke to Forster bringing the side to his shop on the 10th August. He cut it up for sale and found it no different to ordinary beef. He ate a small portion of it himself and suffered no after-effects.

Dr. John Clegg, Medical Officer of Health for Stockton, said that on the day in question he went to West Hartlepool, having been asked to do so by telegram. On his arrival in the town he found that the beef had been destroyed and so returned home. On the following Thursday he again went to West Hartlepool, and then had shown him a small piece of the alleged bad meat. He examined it, and, as far as his knowledge went, he thought it sound meat. He certainly should not have condemned it.

William Elliott, M.R.C.V.S., veterinary inspector to Stockton Market, was then examined. He subjected the beast to a most searching examination and failed to discover any trace of disease about it.

Joseph Thompson, butcher, was in the market when the meat was seized. He did not touch it, but could swear that there was no smell about it. To all appearances it was sound meat.

At the termination of this witness's evidence the Bench retired for a brief period. On returning the Chairman stated that he and his brother magistrates had given the case their most serious consideration. They had come to the conclusion that the meat was unsound and defendant would be fined 50s. for each piece and costs, including the Medical Officer of Health and the Veterinary Surgeon's fees, amounting to £3 8s., in all £8 8s. If the money was not forthcoming, and there was not sufficient to distrain upon, defendant would have to go to Durham for two months.

An appeal will in all likelihood be made before the Quarter Sessions.

DIFFICULTIES OF PLANT BREEDING.

A centre of the botanical world here (Paris) is the Pommes de Terre Club. One of the great practical botanists of France is M. de Vilmorin, a wealthy landowner, who devotes himself to experimental culture. M. de Vilmorin is Vice-President of the Horticultural Society of France. He keeps 100 gardeners in his Verrières grounds. They rear every variety of ornamental flowers and useful plants that can be grown in the northern part of France. A part of their business is to produce new varieties. The hundred work upon a stretch of land—a good deal of it hilly, with the watershed to the south—divided into 12,000 plots. Each plot is given up to a distinct variety.

A plant that has got crossed by accident with a kindred species is looked upon as having lost caste, and is burned, The hecatombs of these vegetable pariahs are colossal. Said one of the gardeners, "They talk of the difficulty of keeping canine races pure. It is child's play compared to that of keeping plants from being crossed with kindred species. They do not want to be too handsome or too pulpy or succulent, and they are always trying to revert to hardy primitive types. Such types defy the insect world, and are a protection from human beings, who cannot make much use of them. Sometimes there are not four plants in a whole plot that are judged fit to be preserved. New species are created by process of selection. They are the glory of the jardinière or of the dinner table, but by no means pets of nature."—*Truth.*

CORRESPONDENCE.

Communications for the Editor to be addressed 20 Fulham Road, S.W.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

ARMY VETERINARY SURGEONS AND PRIVATE PRACTICE.

SIR,

In your "Editorial Notes" last week, you comment, with very natural surprise, on the fact that no answer is forthcoming to my letter, which you published on 3rd of August.

The silence of Dr. Fleming is perhaps more significant than words That of his directors, however, can only be attributable to one of two causes. Either they did not see my former letter, or, if they did, they could make no satisfactory answer to it The latter assumption I feel bound to reject, for I can scarcely allow myself to assume for a single moment that an irreproachable body of gentlemen would secretly shield a Government officer in clinging to a post of emolument in their service, *after* it had come to their knowledge that his official chiefs had publicly stated that such a course would not be sanctioned, if formally brought to their notice, (vide the War Minister's reply in the House of Commons to Mr. Lawson, M.P. in the early part of 1887).

It appears to me, therefore, that the only possible solution of the silence of the Directors is that, through not being subscribers to your journal, they failed to see my letter,and I will now undertake to remedy this by posting to each of these gentlemen a marked copy of your issue of the 3rd of August, and also a marked copy of the present one.

This matter cannot, *and will not*, be suffered to drop. Deeply as it affects the Board of Direction of the North Metropolitan Tramway Company, it still more vitally touches the etiquette, the welfare and the self-respect, of that honourable profession of which your journal is the recognised organ, and of which the *now silent* Dr. Fleming hitherto posed as the jealous guardian.

Your obedient servant, F.M.H.J.

DEAR SIR,

You have indulged us from time to time with information concerning Dr. Fleming's connection with the North Metropolitan Tramway Company, and again you have drawn our attention to it in your last week's Editorial. It appears that you have some *personal* feeling in this matter beyond that of the "attention of the profession," and I am sure it would be equally interesting to us "struggling practitioners," if you were to give us some information on this point, as it would materially assist us to look at and value your previous remarks on this subject in their *true* light.

If I am wrong in any of the following statements perhaps you will be good enough to correct them.

Some time ago your late partner and yourself attended to the horses of the North Metropolitan Tramway Company, as veterinary surgeons. The horses suffered so much from mis-management that there appeared to be some danger of the Company ceasing to run. The Chairman happened to be a personal friend of Dr. Fleming's, and begged of the Doctor to rescue the company from the impending catastrophe. We believe Dr. Fleming obtained the necessary leave to act, and in the course of a month he had so arranged matters that he thought they were in the right groove. Soon after, however, difficulties arose and again Dr. Fleming was appealed to; again he obtained leave and set things right. Was it after this, or was there a third crisis? We won't be sure on this point, but the Directors did decide to have a radical change, which was begun by dispensing with Mr. Daniel's services, and, we believe, on the advice of Dr. Fleming, the company employed two veterinary surgeons of its own. The Directors, moreover, begged Dr. Fleming to give them the favour of his advice when necessary, and to allow them to consult him with regard to matters connected with the health, fitness, and working of their horses. Dr. Fleming has never had anything whatever to do with their medical or surgical treatment, this being entirely in the hands of the Company's veterinary surgeons. So far as I am aware, Dr. Fleming has never interfered with private practitioners, and I believe other practitioners could corroborate this. His advice to the North Metropolitan Tramway Company in no way trespasses upon the domain of the private practitioners, for did he not perform this duty, doubtless nobody else would be asked to do so. His advice simply gives the Directors confidence in the management of their horses, etc., on this account they have from time to time urged him to remain as their consultant.

In conclusion, sir, I trust that now you have exploded your apparently long pent-up animosity on this subject, you will allow it to rest; for, however, much you may be embittered against Dr. Fleming, I can testify that no fault can be attributed to him. *Ignoscite sapi alteri, nunquam tibi.*

I merely write this in order that your readers may know the "truth," so far as I am able to give it, and that with the best of intentions to all concerned.

Yours truly, G. A. BANHAM.

[Mr. Banham asks us to correct any statements in his letter which are wrong. There is only one which we care to notice. He says "some time ago your late partner *and yourself* attended to the horses of the North Metropolitan Tramways Company." The late partner was Mr. A. B. Daniel, who had a contract with the company *in his own name*, and who did the work himself. Mr Hunting had nothing to do with the horses, and never met the Directors. Once for a few days when Mr. Daniel went for a holiday, and for a whole week when he was ill, Mr. Hunting acted for him. The loss of the contract had no pecuniary effect upon the firm, which had some time previously arranged for a friendly dissolution. Mr. Daniel is the only member of the late firm who knows anything of the appointments, and to him must be left any further corrections of Mr. Banham.

There is no ground whatever for imputing "personal feeling," nor "long pent-up animosity." The question simply is, Are our statements true and, if so, ought they to be given publicity.—ED.]

Late Advertisements.

AS ASSISTANT

WANTED by a steady practical M.R.C.V.S. a situation as assistant with a view to partnership. or would manage a branch practice. Town preferred. Has had extensive town practice. Address, VET., 9 Southgate Street, Oldham.

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WANTED in a mixed practice a thoroughly practical middle aged man, with good references. Must be a good castrator and spayer. Apply, stating age, experience and salary required (out-door) ROWLAND TAYLER, M.R.C.V.S., Queen Street, Colchester.

ASSISTANTSHIP.

WANTED a thoroughly practical assistant who is willing to take charge of books. Must be a good castrator. Apply to G.F.B.. "The Veterinary Record," 20 Fulham Road, London, S.W.